

Date.	Star of Com- parison.	Mag.	A. R. of M. P.			Decl. of M. P.	4 Hours East.		4 Hours West.	
			h	m	s		Position- Angle.	Distance.	Position- Angle.	Distance.
Nov. 22	ι	7	2	55	0	-5 42	93 55	83.7	92 18	86.9
	χ	7-8	2	49	6	-5 43	265 24	81.2	266 23	78.0
Nov. 23	ι	7	2	54	7	-5 43	90 28	91.3	89 49	94.2
	χ	7-8	2	49	3	-5 44	267 8	73.0	268 34	70.0
Nov. 24	ι	7	2	54	4	-5 45	89 15	100.0	88 48	103.1
	χ	7-8	2	49	0	-5 46	270 0	64.5	270 24	61.3
Nov. 25	μ	8-9	2	50	5	-5 50	218 39	5.7	187 11	3.4
Nov. 26	μ	8-9	2	50	3	-5 51	115 2	4.6	98 6	8.0
Nov. 27	μ	8-9	2	50	0	-5 52	90 52	11.8	90 0	14.3
	ν	7	2	49	0	-5 51	272 25	20.5	274 25	17.8
Nov. 28	μ	8-9	2	49	8	-5 52	87 33	19.7	85 31	21.3
	χ	7-8	2	49	0	-5 49	281 25	33.9	283 0	32.6
Nov. 29	ν	7	2	48	8	-5 52	299 52	6.3	315 48	5.2
Nov. 30	ν	7	2	48	3	-5 52	11 22	4.1	36 4	4.7

The places of the stars of comparison have been selected from the *Catalogues of the Berlin Equatoreal Star Charts*, for 2^h and 3^h A.R. by Morstadt and d'Arrest respectively, and reduced to 1874.

The A.R. and Decl. of the middle point between the planet and star (M.P.) is given for midnight at Mauritius, the position-angle and distance both for 4^h E. and for 4^h W. of the meridian at Mauritius. The places of the planet are those of the *Nautical Almanac* (Hind's Elements) reduced to the longitude of Mauritius.

Effect of Error in the Tabular Place of Venus, as deduced from Observations near the Ascending Node in 1872 and 1873, at the Royal Observatory, Greenwich, on the time of Ingress and Egress, 1874, December 8. By W. H. M. Christie, Esq.

The observed errors of Geocentric Longitude and E.P.D. must first be reduced to errors of Heliocentric Longitude, and E.P.D. by multiplying by the appropriate factors; then, on the assumption that the Heliocentric Errors at the Transit of 1874, December 8, will be the same as at the passages through the ascending node in 1872 and 1873, the errors of Heliocentric Longitude and E.P.D. previously found are to be converted into errors of Geocentric Longitude and E.P.D. for the Transit by multiplying them by the factors - 2.725 and + 2.725, respectively.

The effect of these errors in altering the distance between the centres of the Sun and *Venus*, at ingress and egress, will be found by resolving along the corresponding radii of the Sun.

The position-angles for Ingress and Egress measured from the N. point towards the E. are 45° and 345° respectively, and the angle at the Sun between the Hour Circle and the Longitude Circle is 5° ; hence the position-angles from the longitude circle for ingress and egress are 40° and 340° respectively, and the corresponding factors are :

	Ingress	Egress
Factor for error of Long.	+ '643	+ '342
" " E.P.D.	- '766	+ '940

the positive sign indicating that the tabular time of Ingress or Egress is too late.

The following table gives the tabular errors for the Transit of *Venus*, 1874, December 8, resulting from the observations near the ascending node in 1872 and 1873 :

Date.	No. of Obs.	Error of Geocentric Longitude.	Error of Geocentric E.P.D.	Error of Heliocentric Longitude.	Error of Heliocentric E.P.D.
1872 June 28 . . .	3	" + 2'08	" + 1'47	" + 5'03	" + 3'52
1873 Jan. 18 . . .	7	+ 1'46	+ 0'58	+ 5'69	+ 0'79
1873 Sept. 14 . . .	4	+ 1'46	+ 0'36	- 4'58	+ 0'58

Ingress.			Resulting error in tabular time of Ingress.	Egress.			Resulting error in tabular time of Egress.
Alteration of distance of centres from error of		Total alteration.		Alteration of distance of centres from error of		Total alteration.	
Long.	E.P.D.			Long.	E.P.D.		
"	"			"	"		
-8'75	-7'34	-16'09	-7'4	-4'65	+9'00	+4'35	m +2'0
-9'97	-1'65	-11'62	-5'3	-5'30	+2'03	-3'27	-1'5
-8'08	-1'19	-9'27	-4'2	-4'29	+1'46	-2'83	-1'3

It is to be remarked that the numbers in the three lines of figures under the heads Ingress and Egress exhibit the errors which will be found according as we rely, for the correction of the Tabular Errors in the place of Venus, exclusively on the observations about 1872, June 28, or on those about 1873, January 18, or on those about 1873, September 14.

Royal Observatory, Greenwich,
1874, April 22.